I claim:

1. A method for acoustically logging a tubular for an interface with a material, wherein the tubular is disposed within a bore hole so that an annulus is formed between the tubular and the borehole and the material is disposed within the annulus, the method comprising:

-producing a first acoustic fan beam from an acoustic sensor located in said tubular;

-recording a plurality of sample readings;

-establishing a first time gate corresponding to a first set of sample readings, wherein said first set of sample readings are representative of the reflection of a perpendicular incidence of the acoustic fan beam and an inner tubular wall;

-recording the first time gate;

-rotating said acoustic sensor;

-producing a second acoustic fan beam from the acoustic sensor.

2. The method of claim 1 further comprising:

-establishing a second time gate corresponding to a second set of sample readings, wherein said second set of sample readings are representative of the reflection of the perpendicular incidence of the second acoustic fan beam and the inner tubular wall;

-recording the second time gate.

3. The method of claim 2 further comprising:

-positioning the acoustic sensor at a second depth;

-establishing a third time gate corresponding to a third set of sample readings, wherein said third set of sample readings are representative of the reflection of the perpendicular incidence of the third acoustic fan beam and the inner tubular wall;

-recording the third time gate;

-recording a depth of acquisition corresponding to the depth of acquiring the plurality of sample readings;

-time tagging the first, second and third time gate;

-matching the first, second and third time gate to a depth of acquisition within said tubular.

4. The method of claim 3 wherein the step of establishing the time gates comprises:

-determining the speed of sound in the fluid medium from known fluid characteristics of average density and average temperature;

- calculating the position of the initial pipe wall reflection of the acoustic fan beam, in time from first acoustic fan beam initiation, wherein said sensor is centralized;

-setting a window with the leading edge being six (6) samples before the calculated position of the initial pipe wall reflection of the acoustic pulse, through to seventeen (17) samples beyond the position of the initial pipe wall reflection of the acoustic pulse in time, so that a sample window of twenty-four (24) samples is provided.

5. The method of claim 4 wherein the step of establishing a first, second, and third time gate includes recording the first, second, and third set of sample readings in a recording means operatively associated with the acoustic sensor located within the tubular and directing the recorded samples to a surface processor, and the method further comprises processing the first, second, and third set of sample readings at the surface for bonding integrity with the material within the surface.

6. The method of claim 5 further comprising:

-measuring an amplitude of the first, second, and third set of sample readings within the first, second and third time gate;

-obtaining a first reflection set representing an interface with the material based on said amplitude;

-obtaining a second reflection set having an amplitude approximately double said first reflection set amplitude, wherein said second reflection set represents a void.

7. The method of claim 1 wherein the first set of sample readings are obtained at a rate of approximately 35 KHz and wherein said first set of sample readings each comprises forty-eight (48) samples at each sensor step with said first time gate defined sample window defining a subset of samples containing twenty-four (24) contiguous samples.

8. The method of claim 7 wherein the step of rotating the acoustic sensor includes rotating the sonar in scan increments of 0.225 degrees.

9. A system for determining the integrity of an interface to a tubular comprising:

-an acoustic fan beam generator for generating an acoustic beam, said beam generator located on a tool within the tubular, and wherein said beam generator generates a sonar data set, with said beam generator recording the sonar data set;

-a surface processor receiving the sonar data set via a telemetry means for transmitting the sonar data set from within the tubular to a surface processor;

-a time gate means, operatively associated with said surface processor, for establishing a time gate defining a sample window that is inclusive of samples representing

compressional wave reflections from the perpendicular incidence of the acoustic beam and first contact with an inner wall of said tubular.

10. The system of claim 9 wherein said beam generator comprises a rotating transducer for rotating in a 360 degree phase within the tubular.

11. The system of claim 10 further comprising:

-means, operatively associated with said beam generator, for recording the sonar data set.

12. The system of claim 11 wherein said telemetry means is an electric line connected at a first end to said acoustic fan beam generator and at a second end to the surface processor;

-and wherein said surface processor contains means for converting the sonar data set to an amplitude file.

13. The system claim 12 wherein said surface processor includes an amplitude comparing means for comparing the amplitude file of the sonar data set.

14. The system of claim 13 wherein said beam generator time tags the data set and the surface processor synchronizes the time tagged data set with the amplitude file.

15. The system of claim 14 wherein said rotating transducer obtains samples at a rate of approximately 35KHz .

16. A method for acoustically logging a tubular for an interface with a material, wherein the tubular is disposed within a bore hole so that an annulus is formed between the tubular and the borehole and the material is disposed within the annulus, the method comprising:

-producing a first acoustic fan beam ping from an acoustic sensor located in said tubular;

-establishing a first time gate, wherein the step of establishing the first time gate comprises:

-determining the speed of sound in a fluid medium located within said tubular;

-calculating the initial pipe wall reflection position of the ping, in time from ping initiation, wherein said sensor is centralized;

-setting a first window with a leading edge of the window being six (6) samples before the calculated position of the initial pipe wall reflection of the acoustic pulse, through to seventeen (17) samples beyond the position of the initial pipe wall reflection of the acoustic pulse in time thereby obtaining a first sample window of twenty-four (24) samples.

17. The method of claim 16 further comprising:

-rotating the acoustic sensor an incremental step;

-producing a second acoustic fan beam ping from the acoustic sensor.

18. The method of claim 17 further comprising:

-establishing a second time gate, wherein the step of establishing the second time gate comprises:

-determining the speed of sound in the fluid medium from known fluid characteristics of average density and average temperature;

-calculating the initial pipe wall reflection position of the ping, in time from ping initiation wherein said sensor is centralized;

-setting a second window with the leading edge of the second window being six (6) samples before the calculated position of the initial pipe wall reflection of the acoustic pulse, through to seventeen (17) samples beyond the position of the initial pipe wall reflection of the acoustic pulse in time, thereby providing a second sample window of twenty-four (24) samples.

19. The method of claim 18 further comprising:

-positioning the acoustic sensor at a second depth;

-establishing a third time gate;

-recording a third sample window defined by the third time gate;

-time tagging the samples in the sample windows defined by the first, second and third time gate;

-matching the sample windows defined by the time gate to a depth of acquisition.

20. The method of claim 19 further comprising:

-measuring an amplitude of the readings within said first, second, and third sample windows defined by the first, second and third time gate;

-obtaining a first reflection set representing an interface based on said amplitude;

-obtaining a second reflection set having an amplitude double said amplitude, wherein said second reflection set represents a void.

21. The method of claim 20 wherein samples from said first, second, and third time gate are obtained at a rate of approximately 35 KHz and wherein said samples comprises forty-eight

(48) samples at each incremental sensor step with a time gate defined sample window defining a subset of samples containing twenty-four (24) contiguous samples.

22. The method of claim 21 wherein the step of obtaining the samples includes recording the samples in a recording means operatively associated with the sensor within the tubular and directing the recorded samples to a surface processor, and the method further comprises processing the samples at the surface.

23. The method of claim 22 wherein the step of rotating the acoustic sonar includes rotating the acoustic sonar in step scan increments of 0.225 degrees.